

Work Order ID 131922

Tuesday, April 21, 2015 1:56:50 PM

131922

Page 1

Item ID: D3953-3

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Gas Spring Stud, Lid

Stop *NS2*

Start Date: 4/20/15 **Start Qty:** 14.00

14

Cust Item ID:**Required Date:** 4/20/15 **Req'd Qty:** 14.00

14

Customer:

Reference:

Approvals: Process Plan: MJS Date: 15-04-22 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3953	C

100

0.00

100

Doosan

Doosan Lathe

Memo

Turn as per folio FA852 & DWG

FOLIO REV: N/A

DWG REV: C

DEBURR

110

0.00

110

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

**DAS
25
9-89**

15-4-20

**DAS
25
9-89**

915-4-2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ OTHER : ☐			
Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐					
Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐					
Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					

Tuesday, April 21, 2015 1:56:50 PM

Page 2

Setup Start *NS1*

Stop *NS2*

Customer:

Run Start *NR1*

Stop ***NR2***

NR2

120

120

QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

130

130

Packaging

Packaging

Identify as per dwg & Stock Location: 81007 0.00

0.00

Memo

0.00

140

140

OC

Quality Control

QC21- Final Inspection - Work Order Release	0.00
---	------

0.00

Memo

0.00

14

✓

15/04/27

144

DAS
28
9-8

APR 29 2015

MLZ

APR 29 2015

ML3

APR 29 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Picklist Print

Tuesday, April 21, 2015 1:56:49 PM

Page 1

Work Order ID: 131922

131922

Parent Item: D3953-3

D3953-3

Parent Item Name: Gas Spring Stud, Lid

Start Date: 4/20/15

Required Date: 4/20/15

Start Qty: 14.00

Required Qty: 14.00

Comments: IPP RevA: New issue DD verified by:EC
per dwg revC DD 10.03.02 verified by:EC

IPP Rev:B as

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304RO.750		Purchased	No			100	f	58.6130	0.125	1.842105			
M304RO 750									**	<u>DL 15-6-26</u>			
304 SS Roundbar .750													

Location

Loc Qty

Loc Code

MAT029

58.613

M128005

11.25

M128496

47.363

1.843

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

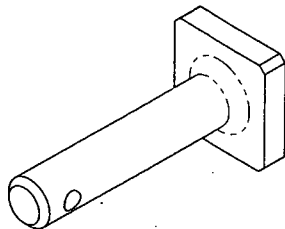
QA Closed: _____ Date: _____

Work Order update only ☐

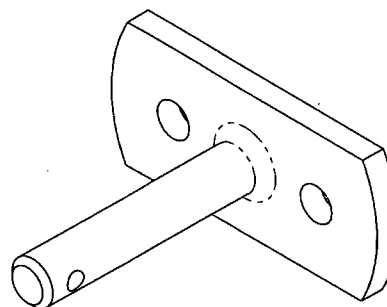
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐		



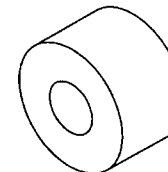
D3953-1 GAS SPRING BRACKET
(FULL LID)



D3953-3 GAS SPRING STUD, LID



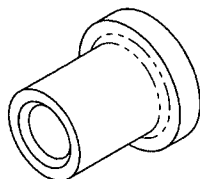
D3953-5 GAS SPRING STUD, BASE



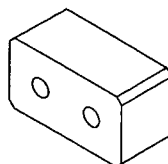
D3953-7 GAS SPRING SPACER



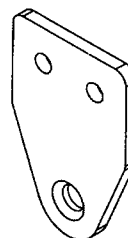
D3953-9 GAS SPRING WASHER



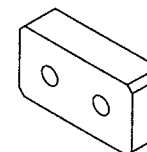
D3953-11 GAS SPRING SPACER



D3953-13 GAS SPRING SPACER
(FULL LID)



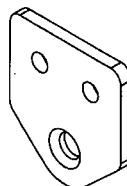
D3953-15 GAS SPRING BRACKET
(SPLIT LID)



D3953-17 GAS SPRING SPACER
(SPLIT LID)



D3953-19 GAS SPRING BRACKET
(SQUARE BASKET)

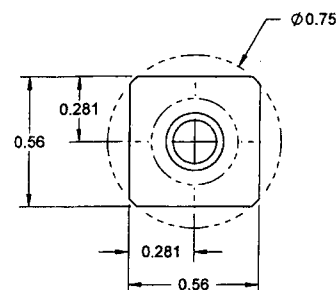
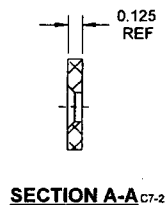


D3953-21 GAS SPRING BRACKET
(SQUARE BASKET)

RELEASED
R 2010-02-26

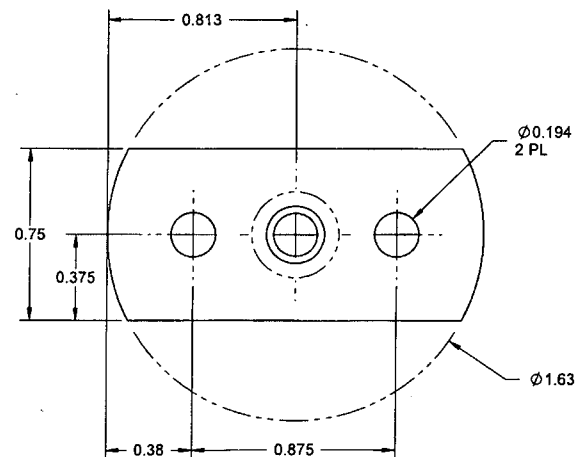
SHOE COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUSCEPTIBLE TO
REVISION
131922 MLS
15-04-22

C	PARTS -19 & -21 ADDED (SHT 1 & 4); CSK CALLOUT WAS CHAM (C6-2, B6-3, C6-4); C SYMM WAS C SYM ABOUT (C7-2, C7-4); SECTION C-C REPOSITIONED TO B2-4 REASON: ADDL PARTS REQD; DRAFTING ERRORS	JPH	10.01.29
B	SHEET 3 ZONE C1, DIM 0.05 MIN WAS 0.13, MULTIPLE DIMENSIONS MIN/MAX REMOVED TOLERANCE ADDED REASON: DIFFICULTY INSTALLING COTTER PIN AT NEXT ASSY.	AJS	09.11.11
A	NEW ISSUE	AJS	09.07.27
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 1 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	NTS
DATE	10.01.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Technical drawing of a shaft with the following dimensions and features:

- Thread: 1/4-28 UNF-2A
- Chamfer: 0.03 X 45° CHAM
- Radius: R0.06
- Through Hole: $\varnothing 0.098$ THRU
- Outer Diameter: $\varnothing 0.250$
- Lengths: 0.170, 0.330, 1.31, 0.13



94

0.03 X 45° CHAM

1/4-28 UNF-2A

R0.06

0.098 THRU

0.170

0.330

0.250

1.44

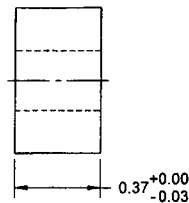
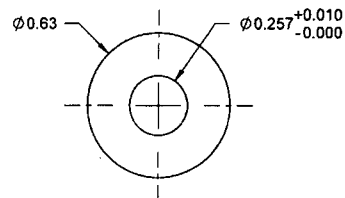
0.13

0.63

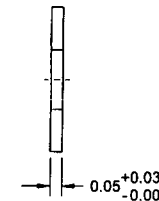
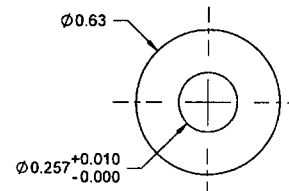
RELEASED
2010-02-26

- NOTES:
- 1) MATERIAL -1: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA
 - 3 & -5: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B
OR:
AISI 304/316 STAINLESS STEEL ROD
REF DART SPEC M304R
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
 - 7) WEIGHT -1: 0.11 lbs
-3: 0.03 lbs
-5: 0.06 lbs

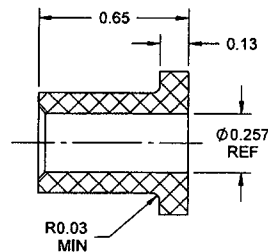
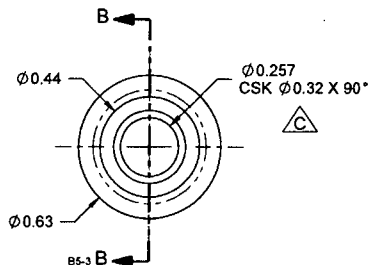
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DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. <i>1</i>
MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 2 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	NTS
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D3953-7 GAS SPRING SPACER

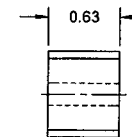
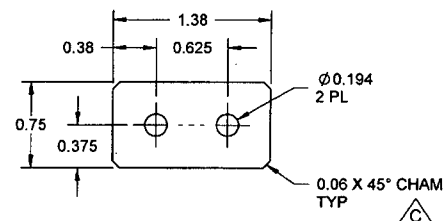


D3953-9 GAS SPRING WASHER



SECTION B-B B7-3

D3953-11 GAS SPRING SPACER



D3953-13 GAS SPRING SPACER

NOTES:

1) MATERIAL -7,-9 & -11: DELRIN II 150E OR ACETRON GP ACETAL, BLACK
REF DART SPEC M-DELIRIN-R

-13: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

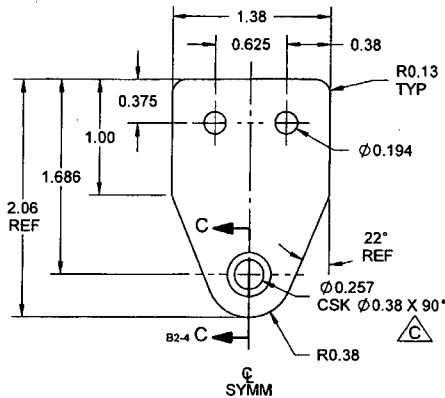
6) IDENTIFICATION -13 ONLY: IDENTIFY WITH DART P/N "D3953-13" USING FINE POINT PERMANENT INK MARKER

7) WEIGHT -7/-9/-11: < 0.01 lbs EACH

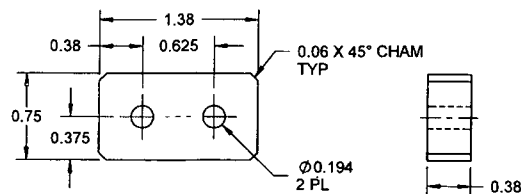
-13: 0.17 lbs

RELEASED
2010-02-26

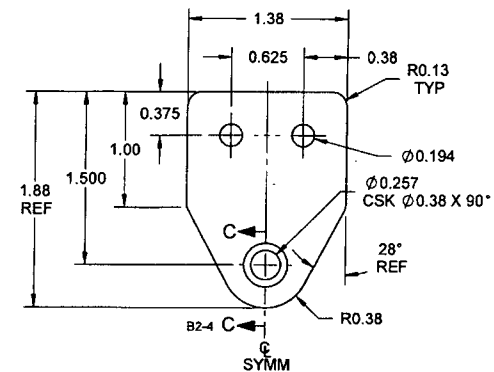
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3953	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GAS SPRING LID COMPONENTS	
DATE	10.01.29	NTS	
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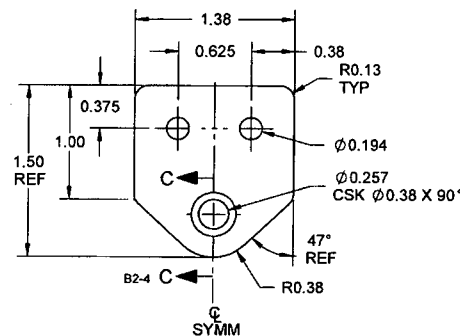
D3953-15 GAS SPRING BRACKET
(SPLIT LID)



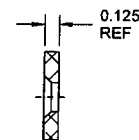
D3953-17 GAS SPRING SPACER
(SPLIT LID)



D3953-19 GAS SPRING BRACKET
(SQUARE BASKET)



D3953-21 GAS SPRING BRACKET
(SQUARE BASKET)



SECTION C-C

NOTES:

1) MATERIAL -15/-19/-21: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA

-17: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B

- 2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT -15: 0.08 lbs
-17: 0.10 lbs
-19: 0.07 lbs
-21: 0.06 lbs

RELEASED
2010-02-26

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	Q	DRAWING NO.	REV. C
MFG. APPR.	E	D3953	SHEET 4 OF 4
APPROVED	H	TITLE	SCALE
DE APPR.	H	GAS SPRING LID COMPONENTS	
DATE	10.01.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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